

REMARKS

Claims 1-36 are now pending in the present application. Claims 1-36 have been amended.

Applicant has carefully studied the outstanding Office Action. The present Response is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of this application are respectfully requested. No new matter has been added by any of the amendments to the specification. Applicant respectfully requests reconsideration and withdrawal of the Examiner's rejections in view of the foregoing amendments and following remarks.

CLAIM REJECTIONS – 35 U.S.C. §103(a)**Claims 1-6, 8, 10, 15, 16, and 25**

The Examiner rejected claims 1-6, 8, 10, 15, 16, and 25 under 35 U.S.C. §103(a), as being unpatentable over Freeman et al. (U.S. Patent No. 5,931,764) in view of Comiskey et al. (U.S. Patent No. 6,639,578). The Examiner has stated that:

The Freeman et al. ['764] discloses a timepiece module (col. 1, line 17 and col. 5, lines 17-18) including timer incorporated in microprocessor 40 for displaying stopwatch and current time (col. 5, lines 17-18), driver 42, controller 40 having an output as shown in Fig. 3, bi-stable display 12 (col. 3, lines 32ff), voltage source 14 (battery). The reference further suggests that other displays may be used at col. 3, line 56.

With respect to the display, the Freeman et al. ['764] patent does not disclose details of the manner of switching power to the display, other than to indicate that the bi-stable display will maintain an image when power is removed (col. 3, lines 34-35). Thus, one of ordinary skill in the art will recognize that the bi-stable display by definition need not be powered continuously. Comiskey et al. ['578] further describes bi-stable displays which are stable for hours or days (col. 2, lines 42-43). One of ordinary skill in the art having both references would thus be taught to power the display of Freeman et al. ['764] less than sixty times a minute using the bi-stable display suggested or any of the other bi-stable displays suggested in Comiskey et al. ['578] as a means for conserving power. The specific refresh rate would be selected to correspond with the frequency of data updates to the display.

With respect to claim 25, a voltage step up circuit is not specifically mentioned in Freeman et al. ['764], however, driver circuit 42 "develops the voltages appropriate to activate and deactivate the display pixels" (col. 3, lines 60-62). Thus, one skilled in the art would be familiar with the manner of driving the display elements and provide a step-up circuit for the power source for producing the necessary voltages to activate the bi-stable display.

With respect to claim 6, Freeman et al. ['764] suggests the use of "suspended particle display" at col. 3, line 56. Thus, an electrophoretic display, being a specific type of such display, would be obvious for use therein and described in detail in Comiskey et al. ['578].

This rejection is respectfully traversed. Claims 1-6, 8, 10, 15, 16, and 25, as amended, are non-obviousness despite the teachings of Freeman et al. '764 in view of Comiskey et al. '578. Further, the prior art cited by Examiner does not, either alone or in combination, teach or disclose every element of Applicant's invention.

Unlike the device of the present invention, Freeman et al. '764 does not teach or claim a timepiece module comprising a single power source capable of powering a bi-stable display comprised of a plurality of encapsulated display elements. While Examiner correctly points out that Freeman et al. '764 suggests the use of displays other than the preferred ferroelectric LCD disclosed in its specification (*see e.g.*, col. 3, lines 21-57), Freeman et al. '764 further discloses display elements require a constant power source to display the images. (*see* col. 3, lines 57-58; *compare* with col. 2, lines 61-65). This is exactly one of the situations addressed by the present Application's specification, wherein the following is disclosed:

Emissive electroluminescent films and organic light emitting diode films can be deposited on flexible substrates to create flexible displays. However, these devices require continuous power consumption for operation, and thus are not practical for many applications.

(*see* page 3, lines 12-15). Moreover, the bi-stable displays disclosed in Comiskey et al. ['578] patent, which is referenced by the Examiner, require a higher powered voltage than envisioned by the Freeman et al. '764 device.

[A]n electronic ink display may require 18 volts or more. In contrast, an LCD display might require 2 to 3 volts.

(*see Specification*, page 7, lines 17-22). Indeed, the present invention addresses problems which have arisen in attempts to implement the bi-stable displays disclosed in Comiskey et al. ['578]. As further noted in the Specification,

Despite the promise of e-ink and gyricon displays, neither technology has achieved any level of commercial implementation. A need exists for translating these technologies into useful displays in the field of watches. Specifically, a need exists for translating the memory retention features of electrophoretic displays into a power saving feature for watches. A need also exists for a watch that can take advantage of the image inversion features of these types of displays.

(*see Specification*, page 83, lines 26-28). A critical inventive concept integral to the present invention is the use of a single power source to power the control unit at a relatively low voltage and to power the bi-stable display at a relatively high voltage. Only by the novel integration of a

step-up voltage circuit into the system, is the present invention is able to accomplish this. While Freeman et al. '764 discloses that the driver circuit 42 "develops the voltages appropriate to activate and deactivate the display pixels" (see col. 3, lines 60-62), Examiner correctly surmises that Freeman et al. '764 does not disclose any means for stepping up the voltage. Moreover, the Freeman et al. '764 neither discloses nor suggests any incentive nor requirement for stepping up the voltage. The displays of the Freeman et al. '764 device are all low voltage displays compared to the one used in the present invention. Thus, there is no need for stepping up the voltage in the Freeman et al. '764 device.

It is well established that as a part Examiner's burden to establish a *prima facie* case of obviousness, Examiner is required to show that the referenced teachings "appear to have suggested the claim subject matter." *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143, 147 (C.C.P.A. 1976). As stated by the Federal Circuit, "Obviousness cannot be established by combining teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination." *In re Geiger*, 815 F.2d 683, 2 USPQ 2d 1276, 1278 (Fed. Cir. 1987). Neither Freeman et al. '764 nor Comiskey et al. '578, either alone or in combination, teach or disclose every element of Applicant's invention. Examiner cannot, therefore, maintain a *prima facie* case of obviousness, and the rejection of claims 1-6, 8, 10, 15, 16, and 25 should be withdrawn.

Claims 7

The Examiner rejected claim 7, under 35 U.S.C. §103(a), as being unpatentable over Freeman et al. (U.S. Patent No. 5,931,764) and Comiskey et al. (U.S. Patent No. 6,639,578) as applied to claim 1 above, and further in view of Simoni et al. (U.S. Patent No. 6,573,880). The Examiner has stated that:

The later reference [Simoni et al. '880] teaches use of a gyron display as a bi-stable type display (col. 3, lines 60ff) for use in a flexible display environment (col. 4, lines 12 and 18). Thus, one of ordinary skill in the art having the three references would have a suggestion of using the gyron display of Simoni et al. ['880] in Freeman et al. ['764] as a type of suspended particle display suggested by therein.

This rejection is respectfully traversed. Claim 7, which has been amended, depends from claim 1. For the reasons stated previously with regard to claim 1, claim 7 is non-obviousness despite the teachings of Freeman et al. '764 in view of Comiskey et al. '578, and further in view

of Simoni et al. '764. Further, the prior art cited by Examiner does not, either alone or in combination, teach or disclose every element of Applicant's invention.

Therefore, Applicant respectfully requests reconsideration and withdrawal of the Examiner's rejection of claim 7 based upon 35 U.S.C. § 103(a).

Claims 9, 11-14, 20-24, 26-29, and 31-36

The Examiner rejected claims 9, 11-14, 20-24, 26-29, and 31-36 under 35 U.S.C. § 103(a), as being unpatentable over Freeman et al. (U.S. Patent No. 5,931,764) and Comiskey et al. (U.S. Patent No. 6,639,578) as applied to claim 1 above, and further in view of Brewer et al. (U.S. Patent No. 5,636,185). The Examiner has stated that:

Regarding claims 9 and 11-14, and 33-36, the specific display effects are not described in Freeman et al. ['764]. However, Brewer et al. ['185] teaches production of various display patterns and effects in a timepiece by varying color and display patterns. The patterns are varied at a selected rate (col. 5, line 40) or manually (col. 9, line 6). One of ordinary skill in the art having these references would thus be taught that the display in Freeman et al. ['764] may be inverted or color-reversed as described in Brewer et al. ['185]. With regard to claim 33, an alarm is not specifically mentioned in Brewer et al. ['185]. However, the patentee suggests at col. 5, lines 38-41 that the display change between two colors at a user selected rate. Thus, a timer using an "alarm" for this purpose would obviously be necessary to activate the display drivers at the appropriate alarm time.

With respect to claims 20-22, 26-29, 31 and 32, Brewer et al. ['185] suggests illuminating the display by means of an EL display (col. 10, line 19). It would thus be obvious for one skilled in the art to provide a back light for the display in Freeman et al. ['764] as taught by Brewer et al. ['185] to facilitate reading the display in the dark. Regarding claims 22-24, Brewer et al. ['185] further teaches plural colors for the display which would be obvious for one skilled in the art to incorporate in the Freeman et al. ['764] device to provide color variation thereto.

This rejection is respectfully traversed. Amended claims 9, 11-14, and 20-24, all depend from amended claim 1. For the reasons stated previously with regard to claim 1, claims 9, 11-14, and 20-24 are non-obviousness despite the teachings of Freeman et al. '764 in view of Comiskey et al. '578, and further in view of Brewer et al. '185. Further, the prior art cited by Examiner does not, either alone or in combination, teach or disclose every element of Applicant's invention.

Further, independent claims 26 and dependent claims 27-29 and 31-32, as amended, and independent claim 33 and dependent claims 34-36, as amended, are non-obviousness despite the teachings of Freeman et al. '764 in view of Comiskey et al. '578, and further in view of Brewer et al. '185. Further, for the reasons stated previously with regard to claim 1, the prior art cited by Examiner does not, either alone or in combination, teach or disclose every element of

Applicant's invention.

Therefore, Applicant respectfully requests reconsideration and withdrawal of the Examiner's rejection of amended claims 9, 11-14, 20-24, 26-29, and 31-36 based upon 35 U.S.C. § 103(a).

Claims 17-19

The Examiner rejected claim 17-19 under 35 U.S.C. §103(a), as being unpatentable over Freeman et al. (U.S. Patent No. 5,931,764) and Comiskey et al. (U.S. Patent No. 6,639,578) as applied to claim 15 above, and further in view of Kamiyama et al. (U.S. Patent No. 6,580,665). The Examiner has stated that:

The later reference [Kamiyama et al. '665] teaches the use of solar, mechanical or thermal power source in a timepiece. One of ordinary skill in the art would thus be taught to use any of these conventional power sources as the voltage source in Freeman et al. ['764] as an obvious choice of available technology.

This rejection is respectfully traversed. Amended claims 17-19, all depend from amended claim 1. For the reasons stated previously with regard to claim 1, claims 17-19 are non-obviousness despite the teachings of Freeman et al. '764 in view of Comiskey et al. '578, and further in view of Kamiyama et al. '665. Further, the prior art cited by Examiner does not, either alone or in combination, teach or disclose every element of Applicant's invention.

Therefore, Applicant respectfully requests reconsideration and withdrawal of the Examiner's rejection of amended claims 17-19 based upon 35 U.S.C. § 103(a).

Claim 30

The Examiner rejected claim 30 under 35 U.S.C. §103(a), as being unpatentable over Freeman et al. (U.S. Patent No. 5,931,764), Comiskey et al. (U.S. Patent No. 6,639,578), Simoni et al. (U.S. Patent No. 6,573,880) as applied to claim 7 above, and further in view of Brewer et al. (U.S. Patent No. 5,636,185). The Examiner has stated that:

Provision of a light source for the gyricon display of Simoni et al. ['880] would be obvious to one skilled in the art as a means for assisting viewing the display in the dark, as noted above.

This rejection is respectfully traversed. Claim 30, which has been amended, depends

from claim 26. For the reasons stated previously with regard to claim 1 and claim 7, claim 30 is non-obviousness despite the teachings of Freeman et al. '764 in view of Comiskey et al. '578, and Simoni et al. '764, and further in view of Brewer et al. '185. Further, the prior art cited by Examiner does not, either alone or in combination, teach or disclose every element of Applicant's invention.

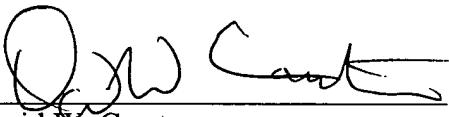
Therefore, Applicant respectfully requests reconsideration and withdrawal of the Examiner's rejection of claim 30 based upon 35 U.S.C. § 103(a).

CONCLUSION

Applicant has adopted the Examiner's suggestions and believes the claims are in condition for allowance. It is respectfully urged that the subject application is patentable over references cited by Examiner and is now in condition for allowance. Applicant requests consideration of the application and allowance of the claims. If there are any outstanding issues that the Examiner feels may be resolved by way of a telephone conference, the Examiner is cordially invited to contact David W. Carstens at 972.367.2001.

The Commissioner is hereby authorized to charge any additional payments that may be due for additional claims to Deposit Account 50-0392.

Respectfully submitted,

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